UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,756	10/21/2003	Kazuhito Saeki	3140-015	6007

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KILYK & BOWERSOX, P.L.L.C.
400 HOLIDAY COURT
SUITE 102
WARRENTON, VA 20186

EXAMINER
WONG, ALLEN C

ART UNIT	PAPER NUMBER
2621	

MAIL DATE	DELIVERY MODE
12/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/689,756	SAEKI, KAZUHITO
	Examiner	Art Unit	
	Allen Wong	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>21 September 2007</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-12</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-12</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>22 March 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/21/07

has been entered.

Response to Arguments

2.   Applicant's arguments with respect to claims 1-12 have been read and

considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over

White (4,972,494) in view of Long (4,860,096).

Regarding claim 1, White discloses an image processing system comprising:

a camera for picking up a workpiece (fig.1, element 12 is a camera for picking up

images on the workpiece and col.5, ln.65-68); and

an image processing apparatus for capturing image pickup data of the workpiece

picked up by said camera and performing image processing (fig.1, element 140 is a

computer that processes the image data via comparison and determination of data as

picked up by camera 12, see col.8, ln.52-63 and col.9, ln.6-15),

said image processing apparatus including a trigger receiving section for

receiving a trigger from an outside to initiate capture of workpiece image pickup data by

said camera (col.8, ln.4-33, in fig.1, element 60 is a detector that has a sensor element

72 that permits the detection of the package 18, in that the package is detected from the

outside or external initiating source for initiating the capture of workpiece image pickup

data by element 12 via supplying the trigger signal to the camera 12),

an image processing section for performing image processing with respect to

each of the image pickup data picked up by the camera after receipt of the trigger from

the outside to generate image processing result data (col.8, ln.52-col.9, ln.18, White

discloses the statistics are stored and processed for comparison to ascertain the

number and the nature of the errors of the obtained data to determine whether the item

or package from the workpiece image data is defective, after the collection or gathering

of the workpiece image pickup by camera 12), and

a statistical processing section for performing statistical processing of each

image processing result data from the image processing section (col.4, ln.12-17; White

discloses that the measure data or statistics are sampled and stored for evaluation,

analysis and processing of the image data and its statistics, also col.8, ln.52-col.9, ln.18,

White discloses the statistics are stored and processed for comparison to ascertain the

number and the nature of the errors of the obtained data; also fig.5, element 278 is a

histogram processor that stores and processes measured statistics as histograms are a

collection of statistics or numerical parameters, as disclosed in col.13, ln.6-12).

White does not specifically disclose a trigger generation section for generating a

predetermined number of internal triggers at predetermined intervals via an interval

timer after said trigger receiving section receives the trigger from the outside, each of

the internal triggers initiating capture of workpiece image pickup data at the

predetermined intervals. However, Long teaches the generation of the predetermined

number of internal triggers at predetermined intervals via an interval timer after

receiving the trigger from the outside (col.9, ln.34-45 and col.13, ln.39-55, Long

discloses that after the receipt of the outside triggering of the switch to ASYNC state,

the generation of internal triggers is set at predetermined cycles or intervals for

repetitively capture workpiece image data), each of the internal triggers initiating capture

of workpiece image pickup data at the predetermined intervals (col.3, ln.21-28, col.9,

ln.34-45 and col.13, ln.45-55, Long discloses that the user can initiate and control the

number of internal triggers for capturing the workpiece image data at timed cycles or

timed intervals that are already predetermined). Therefore, it would have been obvious

to one of ordinary skill in the art to combine the teachings of White and Long, as a

whole, for viewing the image data in real time in a clear, accurate manner at the user's

convenience (Long col.4, ln.3-6).

Regarding claim 2, White does not specifically disclose wherein a user can

arbitrarily set the number of generations of the internal triggers. However, Long teaches

wherein a user can arbitrarily set the number of generations of the internal triggers

(col.3, ln.21-28, col.9, ln.34-45 and col.13, ln.45-55, Long discloses that the user can

initiate and control the number of internal triggers for capturing the workpiece image

data at timed cycles or timed intervals that are already predetermined). Therefore, it

would have been obvious to one of ordinary skill in the art to combine the teachings of

White and Long, as a whole, for viewing the image data in real time in a clear, accurate

manner at the user's convenience (Long col.4, ln.3-6).

Regarding claim 3, White discloses wherein the image processing apparatus

includes a display section for displaying a result calculated by the statistical processing

section (fig.1, element 160 is a display for outputting the data for the operator to view as

outputted by the computer).

Regarding claim 4, White discloses an image processing method comprising:

receiving an external trigger from the outside to initiate image pickup processing

of a workpiece (col.8, ln.4-33, in fig.1, element 60 is a detector that has a sensor

element 72 that permits the detection of the package 18, in that the package is detected

from the outside or external initiating triggering source for initiating the capture of

workpiece image pickup data by element 12 via supplying the trigger signal to the

camera 12);

picking up workpiece image pickup data by a camera after receipt of each of the

the external trigger (col.8, ln.4-33, in fig.1, element 60 is a detector that has a sensor

element 72 that permits the detection of the package 18, in that the package is detected

from the outside or external initiating source for initiating the capture of workpiece image

pickup data by element 12 via supplying the trigger signal to the camera 12);

performing image processing with respect to each of the workpiece image pickup

data picked up by the camera after receipt of the external trigger to generate, image

processing result data (col.8, ln.52-col.9, ln.18, White discloses the statistics are stored

and processed for comparison to ascertain the number and the nature of the errors of

the obtained data to determine whether the item or package from the workpiece image

data is defective, after the collection or gathering of the workpiece image pickup by

camera 12); and

performing statistical processing of each image processing result data obtained

from the image processing (col.4, ln.12-17; White discloses that the measure data or

statistics are sampled and stored for evaluation, analysis and processing of the image

data and its statistics, also col.8, ln.52-col.9, ln.18, White discloses the statistics are

stored and processed for comparison to ascertain the number and the nature of the

errors of the obtained data; also fig.5, element 278 is a histogram processor that stores

and processes measured statistics as histograms are a collection of statistics or

numerical parameters, as disclosed in col.13, ln.6-12).

White does not specifically disclose generating a predetermined number of

internal triggers at predetermined intervals via an interval timer after receiving the

trigger from the outside. However, Long teaches generating the predetermined number

of internal triggers at predetermined intervals via an interval timer after receiving the

trigger from the outside (col.9, ln.34-45 and col.13, ln.39-55, Long discloses that after

the receipt of the outside triggering of the switch to ASYNC state, the generation of

internal triggers is set at predetermined cycles or intervals for repetitively capture

workpiece image data). Therefore, it would have been obvious to one of ordinary skill in

the art to combine the teachings of White and Long, as a whole, for viewing the image

data in real time in a clear, accurate manner at the user's convenience (Long col.4, ln.3-

6).

Regarding claim 5, White does not specifically disclose setting the number of

generations of the internal triggers. However, Long teaches wherein a user can

arbitrarily set the number of generations of the internal triggers (col.3, ln.21-28, col.9,

ln.34-45 and col.13, ln.45-55, Long discloses that the user can initiate and control the

number of internal triggers for capturing the workpiece image data at timed cycles or

timed intervals that are already predetermined). Therefore, it would have been obvious

to one of ordinary skill in the art to combine the teachings of White and Long, as a

whole, for viewing the image data in real time in a clear, accurate manner at the user's

convenience (Long col.4, ln.3-6).

Regarding claim 6, White discloses further comprising: displaying a result

calculated from the statistical processing (fig.1, element 160 is a display for outputting

the data for the operator to view as outputted by the computer).

Regarding claims 7 and 10, White does not disclose wherein the statistical

processing comprises generating at least one of a maximum value of variation in

workpiece position, a minimum value of variation in workpiece position, and an average

value of variation in workpiece position. However, White does disclose the concept of a

histogram, a collection or variation of numerical values stored (also fig.5, element 278 is a histogram processor that stores and processes frame data of workpiece positions that are measured statistics, and that the measured statistics are organized as histograms which are a collection or a variation of statistics or numerical parameters, as disclosed in col.13, ln.6-12). Therefore, it would have been obvious to one of ordinary skill in the art to obtain and generate a minimum value of variation in workpiece position, and a maximum value of variation in workpiece position as ascertained from White's teachings of using a histogram since a histogram contains a variety of values that must include a maximum value and a minimum value during the data gathering process, and that the average value can be ascertained from the simple addition of all of the variation of values and divide by the number of values obtained for providing an accurate representation of measured statistical data of workpiece image data.

Regarding claims 8 and 11, White discloses wherein the statistical processing comprises eliminating image processing result data that deviates from a predetermined range (col.8, ln.56 to col.9, ln.18, White discloses that during the processing and if the comparison of erroneous data to a thresholded value, then the erroneous data removes the package from the conveyor, thus, resulting the elimination of deviated image processing result data).

Regarding claims 9 and 12, White does not specifically disclose wherein the predetermined intervals are set to avoid synchronizing with a period of an edge position of the workpiece. However, Long teaches that the predetermined intervals are set to avoid synchronization with the period of the edge position of the workpiece (col.13,

ln.39-55, the user can adjust the clock or internal timer to up or down to change the sampling rate and that the "ASYNC" state is set to avoid the synchronous state). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of White and Long, as a whole, for viewing the image data in real time in a clear, accurate manner at the user's convenience and providing the user flexibility for adjustment (Long col.4, ln.3-6).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.
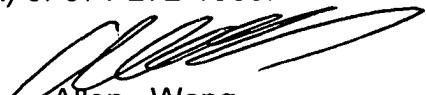
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12/10/07